UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/373,795	08/13/1999	MARK A. BAKKE	98-127-NSC	2949

7590 10/17/2002

TIMOTHY R SCHULTE
STORAGE TECHNOLOGY CORPORATION
ONE STORAGETEK DRIVE MS 4309
LOUISVILLE, CO 800284309

EXAMINER
CHANNAVAJJALA, SRIRAMA T

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 10/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 11

Application Number: 09/373,795
Filing Date: August 13, 1999
Appellant(s): BAKKE ET AL.

Mark D. Chuey
For Appellant

EXAMINER'S ANSWER

This is in response to the supplemental appeal brief filed on 01 October 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the supplemental brief, page 2 is correct.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the supplemental brief, page 2 is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the supplemental brief, page 2 is correct.

(5) Summary of Invention

The summary of invention contained in the brief, page 2 is correct.

(6) Issues

The appellant's statement of the issues in the supplemental brief, page 4-5 is correct.

(7) Grouping of Claims

The grouping of Claims statement in the supplemental brief, page 5 is correct.

(8) Claims Appealed

The copy of the appealed claims contained in the supplemental brief Appendix [page 1-6] to the brief is correct.

(9) Prior Art of Record

6,081,807	Story et al.	6-2000
6,029,168	Frey	2-2000
5,991,763	Long et al	11-1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-6, 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Story et al., [hereafter Story], US Patent No. 6081807 in view of Frey, US Patent No. 6029168.

2. As to Claim 1, Story details a system which including 'a file system for storing data' [see fig 1, element 120, and element 132], examiner interpreting file system corresponds to Story's Network file system, more specifically as detailed in fig 1, element 122, col 4, line 4-5; 'a plurality of storage devices, each storage device

operative to store at least one copy of at least one file' [col 4, line 1-2, line 15-17], examiner interpreting plurality of storage devices corresponds to Story's fig 1, element 120, and element 132, also Story teaches for example local file system 114 is connected to the storage device, element 120, similarly, OSS file system element 124 is connected to disk process element 128 is further linked to a data storage device element 132 as detailed in col 4, line 13-15; 'at least one location server operative' [fig 1, element 122], examiner interpreting location server corresponds to Story's fig 1, element 122, NFS server; 'at least one name server ' [col 4, line 12-14, fig 1, element 130], examiner interpreting name server corresponds to Story's fig 1, element 130, 'each name server physically separate from the at least one location server' [see fig 1, col 1, line 62-67, col 4, line 1-3, line 13-20], Story teaches for example Network File System, having network client element 102, local file system element 114, further NFS may access network server element 106 via network connection, element 110 as detailed in fig 1. It is also further noted that Story suggests name server element 130 connected to network client element 102 through network, element 110. It is noted, however, Story does not specifically detail the claimed limitation 'map a file identifier for each file into the location', 'map a file name to the file identifier referenced by the file name', although Story teaches for example 'a file identifier for each file into the location of each copy of the file represented by the file identifier' [col 6, line 29-40, fig 4-5], examiner notes that NFS Client element 116 and NFS server element 122 are connected through network, element 110, file identifier corresponds to Story's file ID as detailed in fig 4, element 404 is part of VNODE, and VNODEs are linked together by a

link list as detailed in col 6, line 43-44 because each file in the server has one VNODE, and each VNODE contains file information about file in the server; further Story also teaches 'file name to the file identifier referenced by the file name' [col 5, line 30-34], Story teaches for example OSS file system or VNODE of fig 1, element 124 is associated with the file(s) using a hashing mechanism as detailed in fig fig 4, element 402, based on the file ID and file set ID. On the other hand, Frey teaches the claimed feature 'map a file identifier for each file into the location' [col 6, line 23-31], file identifier corresponds to Frey's fig 6, element 60 is unique file ID, 'map a file name to the file identifier referenced by the file name' [col 6, line 46-57], Frey teaches for example for each file created, its information is stored in a table in the form of index as detailed in fig 5, index element 49, see col 5, line 8-10, each time a file is created, it receives a name, the file name is stored in a directory with the file ID element 60 as detailed in col 5, line 43-45.

It would have been obvious one of the ordinary skill in the art at the time of the invention to have incorporated the teachings of Frey into the stateless network file system server or stateless network file system of Story because they both are directed to distributed computing environment, more specifically network file system [see Frey, fig 1, col 2, line 22-32, col 3, line 17-20; Story, see Abstract, col 1, line 6-10], and are both from the same field of endeavor. One of ordinary skill in the art at the time the invention would have been motivated to have combined the references because that would have allowed user of Story's modify OSS file system 124 of the file system data

structure containing VNODEs, more specifically modifying VNODE fig 4, element 404 incorporate Frey's file mapping techniques of distributed mapping mechanism which maps file block sizes more specifically, mapping the logical file blocks for each file onto physical sectors with specific addresses ensures the proper access to the file in a network file system [see Story' co 4, line 21-31], bringing the advantages of optimizing use of physical storage capacity while minimizing file access overhead [see Frey col 2, line 62-66] , improving the performance, reliability and versatility of the distributed or network file system.

3. As to Claims 2, and 17, Story details a system which including 'each file is stored as at least one file extent, the file identifier comprising a file handle' [col 4, line 39-52], examiner interpreting File handler corresponds to Story's fig 3, detailed under NFS request, also examiner notes that File handler is a data structure that contain information for uniquely identifying the file to be accessed as detailed in col 5, line 24-26. Story teaches for example network server 106, NFS server 122 is connected through network interface element 126, to a disk file system such as OSS file system element 124, further OSS file system 124 supports disk files as detailed in col 4, line 4-6, line 53; Story specifically teaches NFS request including File handle as detailed in fig 3, also Story teaches file handle contains information such as type of file, the time of creation of the file, a unique identifier or file ID for the file set in which the file resides and like as detailed in col 4, line 44-46.

4. As to Claims 3, and 18, Story details a system which including 'each file is represented in storage as an object and each file identifier is an object identifier' [col 4, line 53-60, col 5, line 2-6], examiner interpreting object identifier corresponds to Story's VNODE because, OSS file system has the ability to locate VNODE associated with the file using hashing mechanism based on the file ID and file including file handle as detailed in col 5, line 30-34.

5. As to Claims 4, and 19, Story details a system which including 'location server is further operative to store metadata associated with each file identifier' [col 4, line 53-60, line 66-67, col 5, line 1-6], examiner interpreting location server corresponds to Story's OSS file system as detailed fig 1, element 124, OSS file system further contains VNODE, examiner interpreting meta-data corresponds to VNODE meta-data because, firstly VNODE is a file-system data structure, secondly, each active file has an associated VNODE , see Abstract, col 2, line 39-41, thirdly, a VNODE contains information about the state of the file, for example whether it is open, cached data location, timestamps associated with the file and like as detailed in col 4, line 56-59.

6. As to Claim 5, Story details a system which including 'at least one location server is on a first computer system' [see fig 1, element 102, and element 114], examiner interpreting first computer system corresponds to Story's network server, fig 1, element 106, location database corresponds to Story's local file system as detailed fig 1, element 114; 'at least one name database is on a second computer system in

communication with the first computer system' [see fig 1, element 106, element 130, col 3, line 61-67, col 4, line 1-3], examiner interpreting second computer system corresponds to Story's network server as detailed fig 1, element 106, name database corresponds to Story's name server, fig 1, element 130, further network server element 102 and 106 are connected through network interface, element 110, therefore, second computer system is in communication with the first computer system.

7. As to Claim 6, Story details a system which including 'at least one name server is a plurality of name servers' [fig 1, element 130, col 4, line 13-15], examiner interpreting name server corresponds to Story's name server, fig 1, element 130; 'at least one of the plurality of name servers operating under a first file access standard' [fig 1, col 1, line 28-30], Story suggests for example network file system protocol specifications as detailed in col 1, 28-30; file access standard corresponds to NFS protocol defines a data structure called a file handle as suggested in col 1, line 43-33; 'at least one of plurality of the name databases operating under a second file access standard different from the first file access standard' [col 6, line 64-67, col 7, line 1-12].

8. As to Claim 16, Story details a system which including 'a file system for storing data' [see fig 1, element 120, and element 132], examiner interpreting file system corresponds to Story's Network file system, more specifically as detailed in fig 1, element 122, col 4, line 4-5; 'a plurality of storage devices, each storage device operative to store at least one copy of at least one file' [col 4, line 1-2, line 15-17], examiner interpreting plurality of storage devices corresponds to Story's fig 1, element 120, and element 132, also Story teaches for example local file system 114 is connected to the storage device, element 120, similarly, OSS file system element 124 is connected to disk process element 128 is further linked to a data storage device element 132 as detailed in col 4, line 13-15; 'at least one location database' [fig 1, element 122], examiner interpreting location database corresponds to Story's fig 1, element 122, NFS server; 'at least one name database ' [col 4, line 12-14, fig 1, element 130], examiner interpreting name database corresponds to Story's fig 1, element 130, 'at least one client' [see fig 1, element 102], examiner interpreting client corresponds to Story's network client as detailed in fig 1, element 102; 'request a file identifier corresponding to a requested file name' [see fig 1, col 4, line 24-27, line 41-47], Story specifically teaches for example file accessing mechanism as detailed in fig 1 is part of the interface element 118 accepts the request and sent to either local file system element 114 or network file system client element 116 depends on the location of the file, therefore, receiving and sending request for file is being done through network interface; 'request location information corresponding to the received file identifier' [col 1, line 43-46, col 4, line 29-31, line 44-47], examiner interpreting file

identifier corresponds to Story's file ID as detailed in fig 4, element 404; 'receive location information, received file identifier' [col 4, line 53-60], Story teaches file-system data structures called VNODE, which contains various kinds of information about the state of the file as detailed in col 4, line 54-57, further OSS file system try to locate a VNODE associated with the file based on the file ID and file set ID and like as detailed in col 5, line 30-34, 'access data using the location information' [col 5, line 35-40], 'each name database physically separate from the at least one location database' [see fig 1].
It is noted, however, Story does not specifically detail the claimed limitation 'map between a file identifier for each file', 'map between file name and the file identifier referenced by the file name', although Story teaches for example 'location of each copy of the file represented by the file identifier' [col 6, line 29-40, fig 4-5], examiner notes that NFS Client element 116 and NFS server element 122 are connected through network, element 110, file identifier corresponds to Story's file ID as detailed in fig 4, element 404 is part of VNODE, and VNODEs are linked together by a link list as detailed in col 6, line 43-44 because each file in the server has one VNODE, and each VNODE contains file information about file in the server; further Story also teaches 'file name and file identifier referenced by the file name' [col 5, line 30-34], Story teaches for example OSS file system or VNODE of fig 1, element 124 is associated with the file(s) using a hashing mechanism as detailed in fig 4, element 402, based on the file ID and file set ID. On the other hand, Frey teaches the claimed feature 'mapping between a file identifier for each file' [col 6, line 23-31], file identifier corresponds to Frey's fig 6, element 60 is unique file ID, 'map between a file name and the file identifier referenced

by the file name' [col 6, line 46-57], Frey teaches for example for each file created, its information is stored in a table in the form of index as detailed in fig 5, index element 49, see col 5, line 8-10, each time a file is created, it receives a name, the file name is stored in a directory with the file ID element 60 as detailed in col 5, line 43-45.

It would have been obvious one of the ordinary skill in the art at the time of the invention to have incorporated the teachings of Frey into the stateless network file system server or stateless network file system of Story because they both are directed to distributed computing environment, more specifically network file system [see Frey, fig 1, col 2, line 22-32, col 3, line 17-20; Story, see Abstract, col 1, line 6-10], and are both from the same field of endeavor. One of ordinary skill in the art at the time the invention would have been motivated to have combined the references because that would have allowed user of Story's modify OSS file system 124 of the file system data structure containing VNODEs, more specifically modifying VNODE fig 4, element 404 incorporate Frey's file mapping techniques of distributed mapping mechanism which maps file block sizes more specifically, mapping the logical file blocks for each file onto physical sectors with specific addresses ensures the proper access to the file in a network file system [see Story' co 4, line 21-31], bringing the advantages of optimizing use of physical storage capacity while minimizing file access overhead [see Frey col 2, line 62-66] , improving the performance, reliability and versatility of the distributed or network file system.

9. Claims 7-10, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Story et al., [hereafter Story], US Patent No. 6081807, Frey, US Patent No. 6029168, as applied to Claims 1 and 16above, and further in view of Long et al., [hereafter Long], US Patent No. 5991763.

10. As to Claims 7, and 20, Story details a system which including 'request a file identifier' [see fig 4, element 404, col 6, line 32-34], examiner interpreting file identifier corresponds to Story's file ID as detailed in fig e, element 404, 'at least one location server [see fig 1, element 122], 'receive the requested file identifier' [col 5, line 25-27], 'register the file identifier' [col 5, line 30-34, col 6, line 37-40], 'at least one name server' [fig 1, element 130]. It is noted, however, both Story and Fred do not specifically detail the claimed limitation 'new file name for the new file', on the other hand, Long teaches the claimed feature 'new file name for the new file' [col 6, line 57-67, fig 4].

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to combine the concepts taught by Long with the system of Story and Fred because they are directed to distributed computing environment, more specifically network file system [see Frey, fig 1, col 2, line 22-32, col 3, line 17-20; Story, see Abstract, col 1, line 6-10; Long fig 1, element 102 is network computer, files accessible through a network connection as detailed element 124, col 4, line 2-4], and are from the same field of endeavor. One of ordinary skill in the art at the time the invention would have been motivated to have combined the references because that

would have allowed user of Story's modify OSS file system 124 of the file system data structure containing VNODEs, more specifically modifying VNODE fig 4, element 404 incorporate Long's relevant data files with different directory path creating new names for the data files as suggested [see Long col 6, line 61-67], further allows to locate specific file(s) in the network file server, thus improving the performance of both operating system and application software [see Long col 3, line 51-52].

11. As to Claims 8-9, Story details a system which including 'send a requested file name to the name server' [col 4, line 13-21, line 47-52, col 8, line 35-36]; examiner interpreting name server corresponds to Story's fig 1, element 130'receive a file identifier corresponding the requested file name' [col 4, line 44-47, col 5, line 30-34], examiner interpreting file identifier corresponds to Story's file ID as detailed in fig 4, element 404 contains file ID; 'an indicated location server from the name server' [fig 1], examiner interpreting location server corresponds to Story's NFS server, fig 1, element 122; 'request from the indicated location server updated locations for a write operation to the requested file' [col 5, line 44-60, col 6, line 1-6], examiner interpreting updating operation is inherent aspect of Story's teaching because each file is associated with VNODE, further VNODE contains file ID, file set ID from the file handle and these are hashed into the bucket of VNODE has table as detailed in col 6, line 40-44, further in the structure of OSS file system specifically layer a2 creates, and stores VNODEs and VNODE has list which is corresponds to updating VNODE association with the file using a hashing mechanism as detailed in col 6, line 52-53; 'receive updated locations from

the location server' [col 6, line 37-44, line 62-67]; 'write data to the received updated locations' [col 7, line 21-28], 'read data from the at least one received requested location' [col 5, line 20-24].

12. As to Claim 10, Story details a system which including 'send an existing file name for an existing file to the name server' [col 4, line 13-21, line 47-52, col 8, line 35-36], 'receive a file identifier corresponding the existing file from the name server' [col 4, line 44-47, col 5, line 30-34], 'send the file identifier' [col 6, line 32-34],' at least one name server' [fig 1, element 130], on the other hand, Long teaches 'registering the new file name for the existing file' [col 6, line 57-67]

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Story et al., [hereafter Story], as applied to Claims 11 above, and further in view of Long et al., [hereafter Long], US Patent No. 5991763.

14. As to Claim 15, Story details a system which including 'sending the file identifier' [see fig 4, element 404, col 6, line 32-34], examiner interpreting file identifier corresponds to Story's file ID as detailed in fig e, element 404, 'at least one name server [see fig 1, element 130], it is noted, however, Story does not specifically detail the claimed limitation 'new file name for the file', on the other hand, Long teaches the claimed feature 'new file name for the file' [col 6, line 57-67, fig 4].

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to combine the concepts taught by Long with the system of Story because they are directed to distributed computing environment, more specifically network file system [Story, see Abstract, col 1, line 6-10; Long fig 1, element 102 is network computer, files accessible through a network connection as detailed element 124, col 4, line 2-4], and are from the same field of endeavor. One of ordinary skill in the art at the time the invention would have been motivated to have combined the references because that would have allowed user of Story's modify OSS file system 124 of the file system data structure containing VNODEs, more specifically modifying VNODE fig 4, element 404 incorporate Long's relevant data files with different directory path creating new names for the data files as suggested [see Long col 6, line 61-67], further allows to locate specific file(s) in the network file server, thus improving the performance of both operating system and application software [see Long col 3, line 51-52].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

15. Claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Story et al., [hereafter Story], US Patent No. 6081807.

16. As to Claim 11, Story details a system which including 'accessing a file referenced by a file name' [col 1, line 43-46, col 2, line 20-25, line 39-41, col 4, line 23-26, line 41-47], Story teaches accessing a file for example open a file as detailed in col 4, line 22-23, further Story also teaches file access mechanism is integral part of file system element 114 or network file system element 116 depends on location of the file, therefore, Story teaches accessing a file, it is also common knowledge that specific file(s) are identified by either file name or file ID for example Story teaches a file handle which is a part of network file system contains information about file(s) such as type of file, unique identifier or file set ID, a unique identifier or file ID for the file within the file set as detailed in col 4, line 43-47, see fig 4, element 404 specifically details file ID, file set ID, also Story specifically teaches for example file handle defined by the network file system protocol data structure, this file handle contains information to uniquely identify the file to be accessed as detailed in col 1, line 43-46, therefore, Story teaches

accessing file referenced by a file name or file ID which is unique to each file; 'file stored on at least one storage device' [see fig 1, element 120 and 132, col 4, line 1-3], examiner interpreting storage device corresponds to Story's fig 1, element 120 and element 132; 'sending the file name to a name server' [fig 1, col 4, line 23-30, line 41-47], examiner interpreting name server corresponds to Story's fig 1, element 130, Story teaches specifically file handle which contains formation such as type of file, unique identifier or file ID and like as detailed in col 4, line 41-47, Story also teaches for example network file system or NFS server element 122 is linked to OSS file system or VNODEs element 124 through network interface element 126 as detailed in fig 1 , further, OSS file system element 124 contains file-system data structure called VNODEs, VNODE contains information about file as detailed in col 4, line 56-61; 'receiving a file identifier corresponding to the file name from the name server' [col 4, line 44-47, col 5, line 30-34], examiner interpreting file identifier corresponds to Story's file ID as detailed in fig 4, element 404; 'sending the file identifier to a location server, the location server separate from the name server' [col 4, line 47-52, line 56-62, fig 1], examiner interpreting location server corresponds to Story's fig 1, element 122, NFS server, and name server corresponds to fig 1, element 130 is different from NFS server , further VNODE or OSS file system contains information about file for example unique file ID, type of file and like as detailed in col 4, line 45-56; 'receiving file location information corresponding to the file identifier from the location server' [col 6, line 32-34, line 37-40, col 9, line 26-34], Story teaches OSS file system, fig 1,-element 124 helps to locate the VNODE for a particular file i.e., VNODE maintains relevant information such

as corresponding file ID and like as detailed in col 6, line 32-34, it is noted that Story's teaching including a Client Network file system element 116 , server network file system connected though network element 110, therefore, sending and receiving file(s) over network is common knowledge and well known in the art; 'accessing the file using the location information' [col 5, line 25-27, line 30-34].

17. As to Claim 12, Story details a system which including 'each file is stored as at least one file extent, the file identifier comprising a file handle' [col 4, line 39-52], examiner interpreting File handler corresponds to Story's fig 3, detailed under NFS request, also examiner notes that File handler is a data structure that contain information for uniquely identifying the file to be accessed as detailed in col 5, line 24-26. Story teaches for example network server 106, NFS server 122 is connected through network interface element 126, to a disk file system such as OSS file system element 124, further OSS file system 124 supports disk files as detailed in col 4, line 4-6, line 53; Story specifically teaches NFS request including File handle as detailed in fig 3, also Story teaches file handle contains information such as type of file, the time of creation of the file, a unique identifier or file ID for the file set in which the file resides and like as detailed in col 4, line 44-46.

18. As to Claim 13, Story details a system which including 'each file is represented in storage as an object and each file identifier is an object identifier' [col 4, line 53-60, col 5, line 2-6], examiner interpreting object identifier corresponds to Story's VNODE because, OSS file system has the ability to locate VNODE associated with the file using hashing mechanism based on the file ID and file including file handle as detailed in col 5, line 30-34.

19. As to Claim 14, Story details a system which including 'location database is further operative to store metadata associated with each file identifier' [col 4, line 53-60, line 66-67, col 5, line 1-6], examiner interpreting location database corresponds to Story's OSS file system as detailed fig 1, element 124, OSS file system further contains VNODE, examiner interpreting meta-data corresponds to VNODE meta-data because, firstly VNODE is a file-system data structure, secondly, each active file has an associated VNODE , see Abstract, col 2, line 39-41, thirdly, a VNODE contains information about the state of the file, for example whether it is open, cached data location, timestamps associated with the file and like as detailed in col 4, line 56-59.

Response to Arguments

20. At page 7, line 2-3, Claim 1, appellant argues 'neither Story nor Frey teach or suggest Appellant's physically separate name server and location server.

As to the above argument Examiner disagree to this contention because Story specifically teaches for example name server as detailed in col 4, line 12-14, fig 1, element 130, further name server corresponds to Story's fig 1, element 130. It is also noted from the fig 1, the name server element 130 is integral part of network server element 106. It is further noted that Story specifically teaches for example location server, see fig 1, element 122, examiner interpreting location server corresponds to NFS server, fig 1, element 122.

It is clear from the Story's fig 1 that both NFS server, element 122 and name server element 130 are not only different servers but also physically different, further these two servers are connected to network through various components as detailed in fig 1.

21. At page 8, Claim 16, item (i) Story does not teach or suggest Appellant's name database.

As to the above argument Examiner disagree with the applicant because Story specifically teaches for example name database [col 4, line 12-14, fig 1, element 130], examiner interpreting name database corresponds to Story's fig 1, element 130, further name server or database is responsible for organizing file names in hierarchical structure and returns file identifier corresponding to that name as detailed in col 5, line 7-8.

22. At page 8, Claim 16, item (ii) Story does not teach or suggest Applicant's location database.

As to the above argument Examiner disagree with the applicant because Story specifically teaches for example location database, see fig 1, element 122, examiner interpreting location database corresponds to Story's fig 1, element 122, NFS server.

23. At page 9, Claim 16, item (iii) Neither Story nor Frey teach or suggest separate name database and location database.

As to the above argument Examiner disagree with the applicant because Story suggest name server and location server [see fig 1, col 1, line 62-67, col 4, line 1-3,

line 13-20], Story teaches for example Network File System, having network client element 102, local file system element 114, further NFS may access network server element 106 via network connection, element 110 as detailed in fig 1. It is also further noted that Story suggests name server element 130 connected to network client element 102 through network, element 110.

24. At page 9, Claim 16, item (iv), at page 10, line 5-6, Neither Story nor Frey teach or suggest Appellant's client.

As to the above argument examiner disagree with the applicant because both Story et al. and Frey are directed to network file system [see Story: Abstract, fig 1: Frey: col 4, line 8-16, specifically Frey's prior art example 1 of fig 3A]. It is however, noted in the office action that Story et al. teaches client(s) and server(s) through network such as detailed in fig 1, specifically at least one client, see fig 1, element 102, fig 2, network client, examiner interpreting client corresponds to Story's network client as detailed in fig 1, element 102.

25. At page 10, line 11, item C, Claims 2, 17, Neither Story nor Frey mention an extant.

As to the above argument, firstly Story is directed to pseudo-open state is stored in a file system data structure, more specifically pseudo-open state is created for a file

when a request for accessing the file is received in a network server from a network client [see col 2, line 19-23], secondly, Story's teaching further teaches file handler that contains information about type of file, unique identifier or file ID, thirdly, NFS request contains various elements one of them is file handle, security credentials, and like as detailed in fig 3, also see VNODE structure. As best understood by the examiner, file extent is a contiguous block of disks, Extents are allocated for file allocation, and a file consists of one or more extents in the network file system environment.

26. At page 11, line 1-2,item D, Claim3, 18, Neither Story nor Frey teach or suggest appellants' representation of files as objects and use of an object identifier as a file identifier.

As to the above argument, Story teaches OSS file system that contains VNODES that corresponds to object identifiers because OSS file system has the ability to locate VNODE associated with the file using hashing mechanism based on the file ID and file handle as detailed in col 5, line 30-34.

27. At page 13, line 3-4, item E, Claim 6, Story neither teaches nor suggests the use of a second standard, let lone the ability for name servers to operate under different file a access standards

As to the above argument, Story suggests network file system protocol specifications, see col 1, line 28-30, examiner interpreting file access standard corresponds to NFS protocol that defines a data structure called a file handle, see col 1, line 43-33, these file handler(s) is a data structure that contains sufficient information for uniquely identifying the file to be accessed as detailed in col 5, line 23-26, It is further noted that OSS file system contains one or more file system data structures called VNODE that is associated with various kinds of information about the state of the file(s), for example Layer 1 performs various initializations, layer 2 does the operation of locating, creating, and storing VNODEs and like, It is however, noted that Story suggests file system access state in association with the VNODE, the access state may be either read-only, or read-and-write, or closed that corresponds to second standard.

28. At page 15, Claim 11, item (i) Story does not disclose separate name server and location server

As to the above argument Examiner disagree to this contention because Story specifically teaches for example name server as detailed in col 4, line 12-14, fig 1, element 130, further name server corresponds to Story's fig 1, element 130. It is also

noted from the fig 1, the name server element 130 is integral part of network server element 106. It is further noted that Story specifically teaches for example location server, see fig 1, element 122, examiner interpreting location server corresponds to NFS server, fig 1, element 122.

29. At page 15, Claim 11, item (ii) Story does not disclose a name server receiving a file name and sending a file identifier corresponding to the file name.

As to the above argument, Examiner disagree with the applicant because firstly, name server is responsible for file name hierarchy and provides pathname, secondly, Story teaches for example file handle which contains information such as type of file, unique identifier or file ID as detailed in col 4, line 41-47.

30. At page 16, Claim 11, item (iii) Story does not disclose a location server receiving a file identifier and sending file location information

As to the above argument, Story discloses NFS server containing file set ID and file ID interfaced through element 126 as detailed in col 5, line 2-6, further Story's NFS server 122 is capable of both sending and receiving file information such as file identifier, location information and like because they are connected through network element 110 as detailed in fig 1.

31. At page 18, Claim 11, item (iv) Story does not disclose a file identifier received from a name server and sent to a location server

As to the above argument, Examiner disagree with the applicant Story specifically teaches for example file identifier [see col 4, line 43-47, fig 4, element 404], more specifically file handler contains file identifier information, and all the requests would be processed through NFS server element 122 as detailed in col 4, line 44-52].

32. At page 18, line 17, Claim 12, item G, Story does not mention an extant.

As to the above argument, firstly Story is directed to pseudo-open state is stored in a file system data structure, more specifically pseudo-open state is created for a file when a request for accessing the file is received in a network server from a network client [see col 2, line 19-23], secondly, Story's teaching further teaches file handler that contains information about type of file, unique identifier or file ID, thirdly, NFS request contains various elements one of them is file handle, security credentials, and like as detailed in fig 3, also see VNODE structure. As best understood by the examiner, file extent is a contiguous block of disks, Extents are allocated for file allocation, and a file consists of one or more extents in the network file system environment.

33. At page 19, line 9-10, Claim 13, item G, Story does not teach appellants' representation of files as objects and use of an object identifier as a file identifier.

As to the above argument, Story teaches OSS file system that contains VNODES that corresponds to object identifiers because OSS file system has the ability to locate VNODE associated with the file using hashing mechanism based on the file ID and file handle as detailed in col 5, line 30-34.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Srirama Channavajjala
Examiner
Art Unit 2177

October 15, 2002

Conferees

Hosain T. Alam
AU2172.

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

TIMOTHY R SCHULTE
STORAGE TECHNOLOGY CORPORATION
ONE STORAGETEK DRIVE MS 4309
LOUISVILLE, CO 80028-4309.